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EXAMINER	
PFIZENMAYER, MARK C	

ART UNIT	PAPER NUMBER
2447	

NOTIFICATION DATE	DELIVERY MODE
06/11/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOCommunications@hoffmanwarnick.com

Office Action Summary	Application No.	Applicant(s)	
	10/598,791	PIPER ET AL.	
	Examiner	Art Unit	
	MARK PFIZENMAYER	2447	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19-25,27,29-36,38 and 40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19-25,27,29-36,38 and 40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 September 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The applicants have cancelled claims 26, 28, 37, and 39, and amended claims 19, 29, and 40 in the amendment filed on 4/6/2009. The claims 19-25, 27, 29-36, 38 and 40 are pending.

Response to Arguments

2. Applicant's arguments filed 4/6/2009 have been fully considered but they are not persuasive.

A. Applicant argues that there is no tenable reason to combine the Najork and Crocker references other than impermissible hindsight.

Examiner traverses. In particular, applicant argues that there is no tenable motivation to combine because "*there is absolutely no reason why one skilled in the art would be motivated to incorporate Crocker's messaging into Nojork's [sic] web crawler system*." However, the systems of Najork and Crocker are both addressed to replicating changes in documents. Najork is addressed to maintaining the freshness of documents downloaded by a web crawler (col. 3, lines 29-55), where Crocker addresses propagating changes to files shared by a group over a network (Abstract). In Najork, the system queues the address of documents that need to be re-downloaded due to changes in the document. When the address reaches the front of the queue, the processing thread then goes to the address to re-download the updated document. The system of Crocker propagates changes to documents by sending a message containing update instructions which are parsed and executed to update the document. This is

done locally, whereas the Najork system must go to the remote address to download the document. Therefore, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to use the messaging of Crocker to reduce the download latency of Najork.

Applicant alludes to the argument that Najork's complete silence "*with regard to messaging in general and to the sending of messages to members of a group in particular*" precludes the combination of Najork and Crocker in any manner other than through impermissible hindsight. Najork does not need to generally address messaging in order for to find a motivation to combine the references. All that is required is that the references suggest the desirability of the combination. This was discussed above. In particular, Najork does not need to address the sending of messages to members of a group because the feature is not recited in the rejected claims. Features not recited in the claims are not given patentable weight and need not be addressed during examination.

Drawings

3. The drawings are objected to because of the following informalities:

- The figure number at the top of each page needs to be filled in, e.g., [Fig.] should read [Fig. 1].

Claim Objections

4. Claims 27 and 38 are objected to because of the following informalities:

- Claim 27 is dependent on claim 26 which was cancelled.
- Claim 38 is dependent on claim 38 which was cancelled.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 19-21, 27, 29-32, 38 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over anticipated by Najork et al. (U.S. Pat. No. 6,263,364) in view of Crocker et al. (U.S. Pub. No. 2003/0177194).

With regard to claim 19, Najork teaches a distributed computer system (i.e., a distributed computer system, col. 4, lines 60-61, and Fig. 1). Najork teaches providing an identifier for each of a plurality of addressing entities (i.e., a host identifier, col. 8, lines 31-35), wherein the identifier for each member of a group of the addressing entities with an affinity is the same group identifier (i.e., all the host names associated with a host are mapped to the same host identifier, col. 8, lines 35-37). Najork teaches determining a number of service providers which are available to be addressed by an addressing entity to provide an instance of a service (i.e., the number of queues is determined by a set parameter set when the web crawler is configured, col. 6, lines 26-

28). Finally, Najork teaches managing a distribution of addressing entities to service providers by: applying a hash function to the identifier of an addressing entity to obtain a standard integer (i.e., the host identifier is hashed into an integer, col. 8, lines 45-46); dividing the standard integer by the number of service providers and obtaining a modulus (i.e., the integer is divided by the number of queues to produce a remainder, col. 8, lines 46-48); selecting a service provider by reference to the modulus (i.e., a queue is selected based on the remainder, col. 8, lines 53-54); and sending the addressing entity to the instance of the service provided by the selected service provider (i.e., the element is enqueued in the selected queue, col. 8, lines 53-58).

Najork does not teach wherein the distributed computing system is a messaging system, the addressing entities are messages and the service providers are clustered queue managers hosting instances of one or more cluster queues. However, Crocker teaches wherein the distributed computing system is a messaging system, the addressing entities are messages (i.e., messages received are posted to the queue manager, page 5, section 0057) and the service providers are clustered queue managers hosting instances of one or more cluster queues (i.e., the queue manager runs two queues, page 5, section 0058) in order to route messages based on a group identifier (Abstract). Therefore, based on Najork in view of Crocker, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the teaching of Crocker in the system of Najork in order to route messages based on a group identifier.

The limitations of claim 40 are rejected in the analysis of claim 19 above, and the claim is rejected on that basis.

With regard to claim 20, Najork teaches wherein the step of determining the number of service providers is carried out periodically and the number of service providers is constant within a period (i.e., the number of queues is determined by setting a queue-to-thread parameter, col. 6, lines 25-29, therefore the number of queues is constant during the period in which the parameter is set).

With regard to claim 21, Najork teaches wherein the method includes providing an index of the available service providers referenced by modulus values (i.e., there is a host-to-queue assignment table that is referenced by the host identifier, col. 13, lines 3-9, Fig. 10, and the host identifier is the modulus value, col. 8, lines 42-48).

With regard to claim 27, Najork teaches all of the claimed subject matter as discussed above. Najork does not teach wherein the group identifier is in the form of a Universally Unique Identifier (UUID). However, Crocker teaches wherein the group identifier is in the form of a Universally Unique Identifier (UUID) (i.e., groups are identified by UUID, page 5, section 0062). Therefore, the limitations of claim 27 are rejected in the analysis of claim 19 above, and the claim is rejected on that basis.

With regard to claim 29, Najork teaches a distributed computer system (i.e., a distributed computer system, col. 4, lines 60-61, and Fig. 1). Najork teaches a plurality of addressing entities each with an identifier (i.e., a host identifier, col. 8, lines 31-35), wherein the identifier for each member of a group of addressing entities with an affinity is the same group identifier (i.e., all the host names associated with a host are mapped

to the same host identifier, col. 8, lines 35-37). Najork teaches a list of a plurality of service providers which are available to be addressed by an addressing entity to provide an instance of a service (i.e., a host-to-queue assignment table, col. 13, lines 3-9, and Fig. 10). Najork teaches a means for managing a distribution of addressing entities to service providers by using an algorithm with the following steps: applying a hash function to the identifier of an addressing entity to obtain a standard integer (i.e., the host identifier is hashed into an integer, col. 8, lines 45-46), dividing the standard integer by the number of service providers in the list and obtaining a modulus (i.e.,. a queue is selected based on the remainder, col. 8, lines 53-54), and selecting a service provider by reference to the modulus (i.e., a queue is selected based on the remainder, col. 8, lines 53-54). Finally, Najork teaches a means for sending the addressing entity to the instance of the service provided by the selected service provider (i.e., the element is enqueued in the selected queue, col. 8, lines 53-58).

Najork does not teach wherein the distributed computing system is a messaging system, the addressing entities are messages and the service providers are clustered queue managers hosting instances of one or more cluster queues. However, Crocker teaches wherein the distributed computing system is a messaging system, the addressing entities are messages (i.e., messages received are posted to the queue manager, page 5, section 0057) and the service providers are clustered queue managers hosting instances of one or more cluster queues (i.e., the queue manager runs two queues, page 5, section 0058) in order to route messages based on a group identifier (Abstract). Therefore, based on Najork in view of Crocker, it would have been

obvious to a person having ordinary skill in the art at the time the invention was made to utilize the teaching of Crocker in the system of Najork in order to route messages based on a group identifier.

With regard to claim 30, Najork teaches wherein the step of determining the number of service providers is carried out periodically and the number of service providers is constant within a period (i.e., the number of queues is determined by setting a queue-to-thread parameter, col. 6, lines 25-29, therefore the number of queues is constant during the period in which the parameter is set).

With regard to claim 31, Najork teaches wherein a mechanism is provided to inform a workload manager of the service providers given in the list (i.e., the number of queues is determined by a set parameter set when the web crawler is configured, col. 6, lines 26-28).

With regard to claim 32, Najork teaches wherein the method includes providing an index of the available service providers referenced by modulus values (i.e., there is a host-to-queue assignment table that is referenced by the host identifier, col. 13, lines 3-9, Fig. 10, and the host identifier is the modulus value, col. 8, lines 42-48).

With regard to claim 38, Najork teaches all of the claimed subject matter as discussed above. Najork does not teach wherein the group identifier is in the form of a Universally Unique Identifier (UUID). However, Crocker teaches wherein the group identifier is in the form of a Universally Unique Identifier (UUID) (i.e., groups are identified by UUID, page 5, section 0062) Therefore, the limitations of claim 38 are rejected in the analysis of claim 29 above, and the claim is rejected on that basis.

7. Claims 22, 23, 25, 33, 34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over anticipated by Najork et al. (U.S. Pat. No. 6,263,364) in view of Crocker et al. (U.S. Pub. No. 2003/0177194), and further in view of Cuomo et al. (U.S. Pat. No. 7,366,755).

With regard to claim 22, Najork and Crocker teach all of the claimed subject matter as discussed above in claim 19. Najork and Crocker do not teach wherein if a selected service provider is unavailable, the addressing entity is sent to the next service provider in a predetermined order. However, Cuomo teaches wherein if a selected service provider is unavailable, the addressing entity is sent to the next service provider in a predetermined order (i.e., when designated server is down, a hash value is incremented, and a new hash is done to select a server, col. 7, lines 34-36, and Fig. 6) in order to improve the routing of requests to application servers (col. 2, lines 39-43). Therefore, based on Najork in view of Crocker, and further in view of Cuomo, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the teaching of Cuomo in the system of Najork in order to improve the routing of requests to application servers.

With regard to claim 23, Najork and Crocker teach all of the claimed subject matter as discussed above in claim 19. Najork and Crocker do not teach wherein if a service provider fails, a process is activated to retrieve previously delivered addressing entities. However, Cuomo teaches wherein if a service provider fails, a process is activated to retrieve previously delivered addressing entities (i.e., if an application server

is non-functional or routed to a different server, the session data may be retrieved from a database and the request fulfilled, col. 5-6, lines 64-3) in order to improve the routing of requests to application servers (col. 2, lines 39-43). Therefore, based on Najork in view of Crocker, and further in view of Cuomo, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the teaching of Cuomo in the system of Najork in order to improve the routing of requests to application servers.

With regard to claim 25, Najork and Crocker teach all of the claimed subject matter as discussed above in claim 19. Najork and Crocker do not teach wherein if a service provider fails, addressing entities sent to that service provider are re-distributed. However, Cuomo teaches wherein if a service provider fails, addressing entities sent to that service provider are re-distributed (i.e., when a server is non-functional, the hash function is recomputed until a functional server is selected, col. 7, lines 32-34, and Fig. 6) in order to improve the routing of requests to application servers (col. 2, lines 39-43). Therefore, based on Najork in view of Crocker, and further in view of Cuomo, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the teaching of Cuomo in the system of Najork in order to improve the routing of requests to application servers.

With regard to claim 33, Najork and Crocker teach all of the claimed subject matter as discussed above in claim 29. Najork and Crocker do not teach wherein if a selected service provider is unavailable, the addressing entity is sent to the next service provider in a predetermined order. However, Cuomo teaches wherein if a selected

service provider is unavailable, the addressing entity is sent to the next service provider in a predetermined order (i.e., when designated server is down, a hash value is incremented, and a new hash is done to select a server, col. 7, lines 34-36, and Fig. 6) in order to improve the routing of requests to application servers (col. 2, lines 39-43). Therefore, based on Najork in view of Crocker, and further in view of Cuomo, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the teaching of Cuomo in the system of Najork in order to improve the routing of requests to application servers.

With regard to claim 34, Najork and Crocker teach all of the claimed subject matter as discussed above in claim 29. Najork and Crocker do not teach wherein if a service provider fails, a process is activated to retrieve previously delivered addressing entities. However, Cuomo teaches wherein if a service provider fails, a process is activated to retrieve previously delivered addressing entities (i.e., if an application server is non-functional or routed to a different server, the session data may be retrieved from a database and the request fulfilled, col. 5-6, lines 64-3) in order to improve the routing of requests to application servers (col. 2, lines 39-43). Therefore, based on Najork in view of Crocker, and further in view of Cuomo, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the teaching of Cuomo in the system of Najork in order to improve the routing of requests to application servers.

With regard to claim 36, Najork and Crocker teach all of the claimed subject matter as discussed above in claim 29. Najork and Crocker do not teach wherein if a

service provider fails, means are provided to re-distribute addressing entities sent to that service provider. However, Cuomo teaches wherein if a service provider fails, means are provided to re-distribute addressing entities sent to that service provider (i.e., when a server is non-functional, the hash function is recomputed until a functional server is selected, col. 7, lines 32-34, and Fig. 6) in order to improve the routing of requests to application servers (col. 2, lines 39-43). Therefore, based on Najork in view of Crocker, and further in view of Cuomo, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the teaching of Cuomo in the system of Najork in order to improve the routing of requests to application servers.

8. Claims 24 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over anticipated by Najork et al. (U.S. Pat. No. 6,263,364) in view of Crocker et al. (U.S. Pub. No. 2003/0177194), and further in view of Modi et al. (U.S. Pat. No. 6,587,866).

With regard to claim 24, Najork and Crocker teach all of the claimed subject matter as discussed above in claim 19. Najork and Crocker do not teach wherein if a service provider fails, that service provider can be reinstated after ensuring that there are no addressing entities with a group affinity in alternative service providers. However, Modi teaches wherein if a service provider fails, that service provider can be reinstated after ensuring that there are no addressing entities with a group affinity in alternative service providers (i.e., when a new node is brought in to replace an old node, the server identifier is exchanged, existing connections with the server identifier are checked for,

and all existing connections with that sever identifier are transferred to the new node, col. 12, lines 29-53) in order to distribute packets in accordance with client affinity (col. 3, lines 19-36). Therefore, based on Najork in view of Crocker, and further in view of Modi, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the teaching of Modi in the system of Najork in order to distribute packets in accordance with client affinity.

With regard to claim 35, Najork and Crocker teach all of the claimed subject matter as discussed above in claim 29. Najork and Crocker do not teach wherein if a service provider fails, means are provided to assure that there are no addressing entities with a group affinity in alternative service providers before the failed service provider is reinstated. However, Modi teaches wherein if a service provider fails, means are provided to assure that there are no addressing entities with a group affinity in alternative service providers before the failed service provider is reinstated. (i.e., when a new node is brought in to replace an old node, the server identifier is exchanged, existing connections with the server identifier are checked for, and all existing connections with that sever identifier are transferred to the new node, col. 12, lines 29-53) in order to distribute packets in accordance with client affinity (col. 3, lines 19-36). Therefore, based on Najork in view of Crocker, and in further view of Modi, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the teaching of Modi in the system of Najork in order to distribute packets in accordance with client affinity.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK PFIZENMAYER whose telephone number is (571)270-7214. The examiner can normally be reached on Monday - Friday 8:00 - 5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Hwang can be reached on (571)272-4036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mark Pfizenmayer
Patent Examiner
3 June 2009

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